

Patent Application
Attorney Docket No. 10010314-1
(AGIL01-00148)

REMARKS

Claims 1-9, 13-19, 27 and 28 remain pending in the application. Claims 1 and 14 have been amended, as shown above. These amendments are respectfully submitted to not introduce new matter and their entry is respectfully requested in light of the fact that Applicants believe the amendments place the claims in condition for allowance.

I. 35 U.S.C. § 102 - ANTICIPATION

Claims 1-3, 7-9, 14, 15 and 17-29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tabei (U.S. Pat. No. 4,404,586). In light of the above amendments, Applicants respectfully traverse this rejection.

A cited prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131; *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Anticipation is only shown where each and every limitation of the claimed invention is found in a single cited prior art reference. MPEP § 2131; *In re Donohue*, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

On pages 6-7 of the Final Office Action, the Examiner maintained the rejection of Claims 1-3, 7-9, 14, 15 and 17-29 using Tabei by stating: "As seen in Fig. 5a and 5c [of Tabei], the first and third photo-detector elements are capable of absorbing light within first and third ranges of wavelengths, respectively, using any separate two wavelength ranges within the photo-conductivity range in Fig. 5a, and similarly, the second and fourth photo-detector elements are capable of absorbing light within second and fourth ranges of

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wavelengths, respectively, using any separate two wavelength ranges within the photo-conductivity range in Fig. 5c.”

Fig. 5a of Tabei is a graph showing the absorption curve of layer 3, and Fig. 5c of Tabei is a graph showing the absorption curve of the base 2. Although one could select two different wavelength ranges out of the range shown Fig. 5a, and two different wavelength ranges out of the range shown 5c in Tabei and state that layer 3 is capable of absorbing both selected wavelength ranges in Fig. 5a and the base 2 is capable of absorbing both selected wavelength ranges in Fig. 5c, Applicant notes that layer 3 is, in fact, capable of absorbing all wavelength ranges in Fig. 5a, and the base 2 is, in fact, capable of absorbing all wavelength ranges in Fig. 5c. By contrast, in the presently claimed invention, each photo-detector is capable of absorbing light within only a particular wavelength range, and each wavelength range is different.

Thus, to clarify the distinction between Tabei and the presently claimed invention, Applicant has amended independent Claims 1 and 14 to make it clear that the first photo-detector element is “capable of absorbing light within only a first range of wavelengths”, the second photo-detector element is “capable of absorbing light within only a second range of wavelengths”, the third photo-detector element is “capable of absorbing light within only a third range of wavelengths” and the fourth photo-detector element is “capable of absorbing light within only a fourth range of wavelengths, said first, second, third and fourth range of wavelengths each being different from the other.”

There is no teaching or suggestion in Tabei that the second photosensitive element 27 of the photosensitive layer 3 that is elevated above the photodiode 34 is capable of absorbing light within only a third wavelength range, different from the first and second wavelength ranges. Instead, the second photosensitive element 27 elevated above the photodiode 34

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merely absorbs the same first wavelength range (e.g., blue) that the first photosensitive element 26 elevated above the photodiode 5 absorbs. In addition, there is no teaching or suggestion in Tabei that the second photodiode 34 is capable of absorbing light within only a fourth wavelength range, different from the first, second and third wavelength ranges.

For at least these reasons, Tabei fails to anticipate Applicants' invention as recited in Claims 1 and 14 (and their dependents). Accordingly, Applicants respectfully request that the Examiner withdraw the § 102 rejection of Claims 1-3, 7-9, 14, 15 and 17-19.

II. 35 U.S.C. § 103 - OBVIOUSNESS

Claims 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tabei. Claims 4-6, 16, 27 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tabei in view of Nozaki et al. (U.S. Patent No. 4,677,289). In light of the above amendments, Applicants respectfully traverse these rejections.

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP § 2142.

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Applicants respectfully submit that Tabei, alone or in combination with Nozaki et al., does not disclose or suggest *"a second two-color photodetector having a third photo-detector element capable of absorbing light within only a third range of wavelengths and a fourth photo-detector element capable of absorbing light within only a fourth range of wavelengths, said first, second, third and fourth range of wavelengths each being different from the other,"* as claimed in independent Claim 1, from which Claims 4-6, 13 and 27 depend, and independent Claim 14, from which Claims 16 and 28 depend.

As described above, Tabei does not disclose, teach or suggest that the second photosensitive element 27 of the photosensitive layer 3 that is elevated above the photodiode 34 is capable of absorbing light within only a third wavelength range, different from the first and second wavelength ranges. Instead, the second photosensitive element 27 elevated above the photodiode 34 merely absorbs the same first wavelength (e.g., blue) that the first photosensitive element 26 elevated above the photodiode 5 absorbs. In addition, there is no teaching or suggestion in Tabei that the second photodiode 34 is capable of absorbing light within only a fourth wavelength range, different from the first, second and third wavelength ranges.

Nozaki et al. does not correct this deficiency. One of the objects of Nozaki et al. is as follows: "since respective photodiodes are stacked one over another, it is possible to identify the color components of light incident on a small area, i.e., one kind of photosensing area when viewed in a planar plane" (*Nozaki et al., Col. 1, Lines 64-68*). Thus, Nozaki et al., in combination with Tabei, does not teach a second two-color photo-detector having a third photo-detector element capable of absorbing light within only a third range of wavelengths and a fourth photo-detector element capable of absorbing light within only a fourth range of

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wavelengths, in which the first, second, third and fourth range of wavelengths are different from the other, as is claimed in independent Claims 1 and 14 of the present invention.

In addition, with respect to Claims 4-6, 16, 27 and 28, although Nozaki et al. does recite a color sensor including multiple, stacked photodiodes formed of different thicknesses of amorphous silicon, in which each of the photodiodes senses a different wavelength range, Tabei teaches away from the combination of Tabei and Nozaki et al. As discussed on col. 2, lines 25-39 of Tabei, sensing arrays using superimposed channels, each for sensing a different color, are extremely complex and expensive to produce. In addition, as discussed on col. 2, lines 46-56 of Tabei, using multiple superimposed varied channels in silicon crystal results in poor color separation due to the inherent limitations of the material. Therefore, Tabei does not suggest the desirability of combining the teachings of Nozaki et al. with Tabei to include first and third photo-detector elements constructed from different thicknesses of amorphous silicon, and in fact, Tabei teaches away from such combination.

For at least these reasons, Applicants respectfully submit that Claims 4-6, 13, 16, 27 and 28 are nonobvious in light of Tabei and Nozaki et al. Accordingly, Applicants respectfully request that the Examiner withdraw the § 103 rejection of Claims 4-6, 13, 16, 27 and 28.

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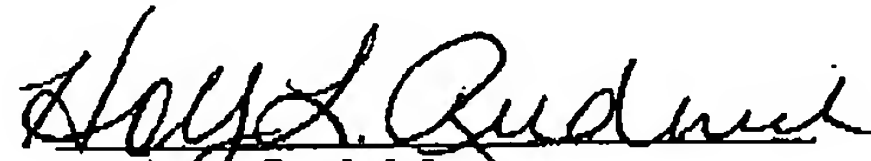
CONCLUSION

Thus, all grounds of rejection and/or objection are traversed or accommodated, and favorable reconsideration and allowance are respectfully requested. Should the Examiner have any further questions or comments facilitating allowance, the Examiner is invited to contact Applicant's representative indicated below to further prosecution of this application to allowance and issuance.

Respectfully submitted,

DAVIS MUNCK, P.C.

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Holly L. Rudnick
Registration No. 43,065

P.O. Box 670007
Dallas, Texas 75367
(Direct) (214) 387-8097
(Fax) (214) 387-7949
(Email) hrudnick@texaspatents.com